

TENT COOPERATION TRE. ✓

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Assistant Commissioner for Patents
United States Patent and Trademark
Office
Box PCT
Washington, D.C.20231
ÉTATS-UNIS D'AMÉRIQUE

in its capacity as elected Office

| | |
|---|---|
| Date of mailing (day/month/year) 16 February 2000 (16.02.00) | |
| International application No. PCT/GB99/01949 | Applicant's or agent's file reference PWC/P20921WO |
| International filing date (day/month/year) 21 June 1999 (21.06.99) | Priority date (day/month/year) 19 June 1998 (19.06.98) |
| Applicant DRAPER, John et al | |

1. The designated Office is hereby notified of its election made:



in the demand filed with the International Preliminary Examining Authority on:

19 January 2000 (19.01.00)



in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was

was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

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| <p>The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No.: (41-22) 740.14.35</p> | <p>Authorized officer S. Mafla</p> <p>Telephone No.: (41-22) 338.83.38</p> |
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TENT COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

CHAPMAN, Paul, William
Kilburn & Strode
20 Red Lion Street
London WC1R 4PJ
ROYAUME-UNI

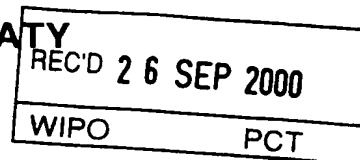
| | |
|--|---|
| Date of mailing (day/month/year) 11 October 2000 (11.10.00) | IMPORTANT NOTIFICATION |
| Applicant's or agent's file reference PWC/P20921WO | |
| International application No. PCT/GB99/01949 | International filing date (day/month/year) 21 June 1999 (21.06.99) |

| | | |
|--|---|--|
| 1. The following indications appeared on record concerning: | | |
| <input checked="" type="checkbox"/> the applicant | <input checked="" type="checkbox"/> the inventor | <input type="checkbox"/> the agent <input type="checkbox"/> the common representative |
| Name and Address | State of Nationality | State of Residence |
| | Telephone No. | |
| | Facsimile No. | |
| | Teleprinter No. | |
| 2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning: | | |
| <input checked="" type="checkbox"/> the person | <input type="checkbox"/> the name | <input type="checkbox"/> the address <input type="checkbox"/> the nationality <input type="checkbox"/> the residence |
| Name and Address DARBY, Robert University of Wales Edward Llwyd Building Institute of Biological Sciences Aberystwyth SY23 3DA United Kingdom | State of Nationality GB | State of Residence GB |
| | Telephone No. | |
| | Facsimile No. | |
| | Teleprinter No. | |
| 3. Further observations, if necessary: Addition of an applicant for the United States of America only. | | |
| 4. A copy of this notification has been sent to: | | |
| <input checked="" type="checkbox"/> the receiving Office | <input type="checkbox"/> the designated Offices concerned | |
| <input type="checkbox"/> the International Searching Authority | <input checked="" type="checkbox"/> the elected Offices concerned | |
| <input type="checkbox"/> the International Preliminary Examining Authority | <input type="checkbox"/> other: | |

| | |
|---|---|
| The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35 | Authorized officer Sean Taylor Telephone No.: (41-22) 338.83.38 |
|---|---|

PATENT COOPERATION TREATY

PCT



INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

| | | |
|--|---|---|
| Applicant's or agent's file reference PWC/P20921WO | FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416) | |
| International application No. PCT/GB99/01949 | International filing date (day/month/year) 21/06/1999 | Priority date (day/month/year) 19/06/1998 |
| International Patent Classification (IPC) or national classification and IPC C12N15/82 | | |
| Applicant BIOGEMMA UK LIMITED et al. | | |

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 8 sheets, including this cover sheet.

- ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☒ Certain observations on the international application

| | |
|---|---|
| Date of submission of the demand 19/01/2000 | Date of completion of this report 21.09.2000 |
| Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465 | Authorized officer Kurz, B Telephone No. +49 89 2399 7319  |

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB99/01949

I. Basis of the report

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

Description, pages:

1-43 as originally filed

Claims, No.:

1-24 as originally filed

Drawings, sheets:

1/18-18/18 as originally filed

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application.
☒ claims Nos. 24.

because:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/GB99/01949

- ☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):
- ☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 24 are so unclear that no meaningful opinion could be formed (*specify*):
- see separate sheet**
- ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.
- ☐ no international search report has been established for the said claims Nos. .

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | | |
|-------------------------------|------|--------|------|
| Novelty (N) | Yes: | Claims | 1-23 |
| | No: | Claims | - |
| Inventive step (IS) | Yes: | Claims | 1-23 |
| | No: | Claims | - |
| Industrial applicability (IA) | Yes: | Claims | 1-23 |
| | No: | Claims | - |

2. Citations and explanations

see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB99/01949

Re Item I

Basis of the report

The examination is being carried out on the following application documents:

Text for the Contracting States:

AT BE CH DE DK ES FI FR GB GR IT IE LI LU MC NL PT SE

Description, pages:

1-43 as originally filed

Claims, No.:

1-24 as originally filed

Drawings, sheets:

1/18-18/18 as originally filed

Re Item III

Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

Claim 24 is directed to agents capable of regulating the expression of heterologous genes linked to the promoter of claims 1-9. However, no such compounds are defined in the application. No examination can be carried out for such purely speculative claims whose wording is, in fact, a mere recitation of the required result.

Re Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following documents:

- D1: WO 93 05164 A (UNIV LEICESTER) 18 March 1993 (1993-03-18) cited in the application
D2: WO 98 03536 A (LEBEL EDOUARD GUILLAUME ;RYALS JOHN ANDREW (US); WARD ERIC RUSSELL) 29 January 1998 (1998-01-29)

Document D1 relates to a wound induced promoter of *Asparagus officinalis* which can also be induced by salicylic acid. The gene driven by this promoter shows some homology to pathogenesis related (PR) PR1-type proteins of dicotyledonous plants. D2 discloses the chemically inducible promoter of the *Arabidopsis* pathogenesis related PR1 gene. This promoter can be induced by salicylic acid (SA), 2,6-dichloroisonicotinic acid (INA), and benzo-1,2,3-thiadiazole-7-carbothioic acid S-methyl ester (BTH). Additionally disclosed are cis-acting regulatory elements involved in the chemical induction.

1. Novelty (Article 33(2) PCT):

With respect to the cited prior art the subject-matter of claims 1-23 is considered to be novel. The present application relates to the promoter sequence of an acidic PR5 protein (aPR5) from *Asparagus officinalis*. aPR5 proteins are known from other monocotyledonous and dicotyledonous plants. However, the promoter of the present application differs from those disclosed in the prior art and does not show any relevant homology to known promoters.

2. Inventive step (Article 33(3) PCT):

That aPR5 proteins are known in mono- and dicotyledonous plants is acknowledged in the description of the present application, as well as the fact that the expression of these proteins can be induced by various chemical substances.

The promoter of the present application differs from the promoters disclosed in D1 and

D2 in its sequence, in the sequence of the SA responsive element, and in the substances or treatments by which it is induced. In addition, none of the documents indicates how to isolate a promoter with the specific features disclosed in the present application.

In view of D1 and D2 claims 1-23 have to be considered as fulfilling the requirements of Article 33(3) PCT.

Re Item VIII

Certain observations on the international application

Objections under Article 6 PCT:

1. Claim 1 is unclear with respect to the following:
 - 1.1 The subject-matter of item 1 i) is unclear concerning various aspects:
 - a) It is not stated by what method the molecular weight of the protein (21.3 kDa) is to be determined.
 - b) The term "plant regulator" does not seem to have a generally acknowledged technical meaning. This term might comprise e.g. plant hormones, chemicals or external conditions such as the availability of water or the duration of illumination. However, regulators other than those disclosed in the description are not supported.

Furthermore, according to the description (p. 11) several treatments known to induce the expression of other PR-related genes are not successful in case of the promoter claimed. With respect hereto the general term "upon induction by plant regulators" is also not supported as it implies that all kinds of regulators might be used.

As a consequence of the above-mentioned, the present formulation does not enable the skilled person to decide whether a certain sequence falls within the scope of the claim.

- 1.2 The term "equivalent" in item 1 ii) renders the scope of the claim unclear as it does not give any degree of identity or any function of the proteins claimed.

- 1.3 As mentioned above, the scope of claim 1 is not clear with respect to items i) and ii). Item 1 iii) relates to proteins which are "substantially homologous". This term renders the scope of the claim even more unclear, as it does not define by which features the protein is characterised and what function it has.
- 1.4 Item 1 iv) is unclear as it covers sequences which might be completely unrelated. No function and no length of the sequences claimed are given.
- 1.5 The IPEA is of the opinion that according to Article 6 and Rule 6.3 PCT the claims shall define the matter for which protection is sought in terms of technical features. (Poly)peptides, proteins, (oligo)nucleotides, genes etc. are considered to be chemical products which must be clearly and unambiguously characterised by their amino acid and/or nucleic acid sequences, i.e. by **reference to their Seq ID No.**
- The characterisation of a product only by the desired function or by an arbitrary abbreviation or designation without any real technical meaning does not seem to fulfil the requirements of Article 6 and Rule 6.3 PCT.
2. Claim 2 is unclear with respect to the term "BTH".
- Firstly, abbreviations are only allowable if adequately introduced, e.g. by giving the full designation at least once.
- Secondly, the term BTH in chemistry relates to a benzo-1,2,3-thiadiazole structure without any specific substituents. In the description of the present application, however, it is stated on page 4 that the compound benzo-1,2,3-thiadiazole-7-carbothioic acid S-methyl ester was used. This must be made clear in the claim.
3. According to Rule 6.2(a) PCT claims must not make reference to the description or drawings. To introduce a specific sequence in claims 4 and 5, reference has to be made to the Seq ID Nos. listed in the sequence listing.
- Additionally, the abbreviated term "SA responsive element" in claim 5 has not been substituted by the not abbreviated expression (see section VIII, 2.).
4. As outlined in 1.5, arbitrary designations or abbreviations are unclear. Claim 6 has not been amended with respect to the term "non-AoPRT-L gene".

5. Throughout the description and the claims reference is made to the plant family Liliaceae. The typing error "Lillaceae" has not been corrected.